A Snapshot of Lung Cancer

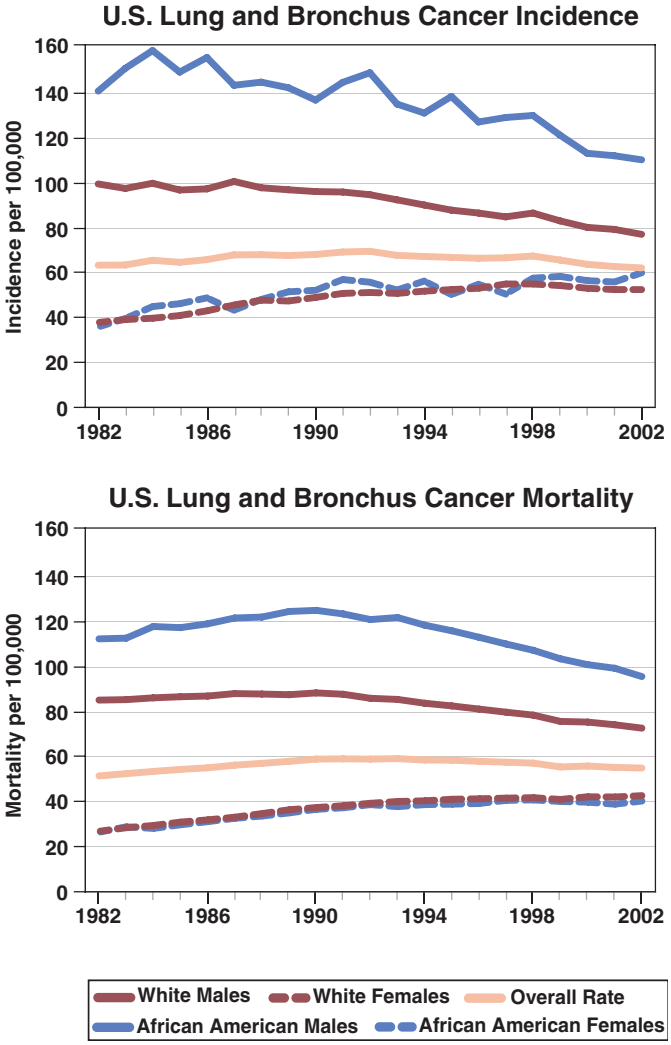
Incidence and Mortality Rate Trends

Lung cancer is the second most common cancer and the most common cause of cancer-related death in both men and women in the United States. The overall mortality rate for lung and bronchus cancer rose steadily through the 1980s and peaked around 1990. While incidence and mortality rates for men have dropped in the last decade, this trend has not been observed for women. Mortality rates are highest among African American males, followed by White males.

It is estimated that approximately $9.6 billion* is spent in the United States each year on treatment of lung cancer.

*In 2004 dollars, as reported in Brown ML, Riley GF, Schussler N, and Etzioni RD. Estimating health care costs related to cancer treatment from SEER-Medicare data. *Medical Care* 2002 Aug; 40 (8 Suppl): IV-104-17.

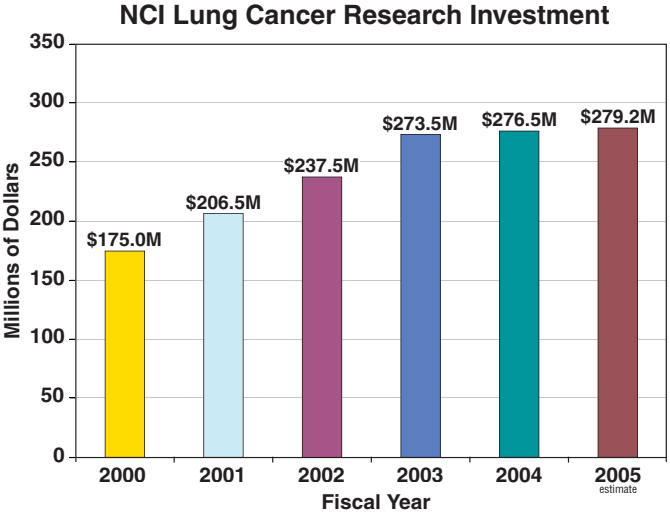
Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts available at: http://seer.cancer.gov/



Trends in NCI Funding for Lung Cancer Research

The National Cancer Institute's (NCI's) investment in lung cancer research has increased from $175.0 million in fiscal year 2000 to an estimated $279.2 million in fiscal year 2005.

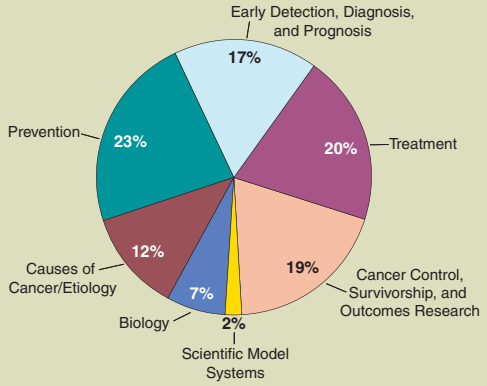
Source: NCI Financial Management Branch
http://www3.cancer.gov/admin/fmb



Examples of NCI Research Initiatives Relevant to Lung Cancer

- Seven lung cancer-specific **Specialized Programs of Research Excellence (SPOREs)** are moving results from the laboratory to the clinical setting. http://spores.nci.nih.gov/current/lung/lung.html
- The **National Lung Screening Trial** is under way to determine if presymptom screening with spiral computed tomography (CT) or chest x-ray can reduce deaths from lung cancer. Fifty-three thousand current or former smokers have been enrolled in the trial. http://www.cancer.gov/NLST
- The **Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial** is designed to determine whether certain cancer screening tests reduce deaths from prostate, lung, colorectal, and ovarian cancers. http://www3.cancer.gov/prevention/plco/index.html
- **Transdisciplinary Tobacco Use Research Centers** are supporting research on nicotine addiction models, genetic and environmental factors in smoking initiation and persistence, methods for preventing tobacco use across cultures, and determinants of relapse. http://www.drugabuse.gov/TTUC/TTURCHome.html

NCI Lung Cancer Research Portfolio



Percentage of Total Dollars by Scientific Area
Fiscal Year 2004

* Data on training grants are not included in this figure. A description of the relevant research projects can be found at the NCI Cancer Research Portfolio website at http://researchportfolio.cancer.gov.

- The **Lung Cancer Trial Results Page** provides timely information on results of important lung cancer trials as well as a link to trials recruiting lung cancer patients. http://www.cancer.gov/clinicaltrials/lung-cancer-updates
- The **Lung Cancer Home Page** provides up-to-date information on lung cancer treatment, prevention, genetics, causes, screening, testing, and other topics. http://www.cancer.gov/lung

Selected Opportunities for Advancement of Lung Cancer Research

- Create scientifically integrated, multidisciplinary collaborations focused on the problem of lung cancer.
- Support a suite of research resources, including bioinformatics, molecular profiling of lung cancers and precancerous tissues, and tissue and data repositories.
- Define the contributions of injury, inflammation, and infection to the development of lung cancer. Use new knowledge to improve prevention, early detection, and treatment interventions.
- Support and develop innovative, integrated studies of the biology of nicotine addiction and develop new interventions to improve smoking cessation.
- Explore the toxicity levels of various tobacco and nicotine products and evaluate current or planned population-based tobacco control efforts.
- Identify all genomic and epigenomic lesions associated with lung cancer and combine new insights with advances in biology to drive new drug development and monitoring of therapy response.
- Advance the science of imaging response assessment with molecular imaging technologies that directly reflect responses to targeted therapies.